

AIRCRAFT AIR CONDITIONING SYSTEM MIXER WITH CORRUGATIONS

ABSTRACT OF THE DISCLOSURE

A mixer includes a fresh air tube defining a passage having an inlet receiving conditioned air from an air conditioning pack. The fresh air tube includes an outlet providing mixed air to a cabin of the aircraft. An outer tube at least partially surrounds the fresh air tube and receives recirculated air from the cabin. A circumferential corrugation in the fresh tube forms multiple lobes in the fresh air tube fluidly connect the outer tube to the fresh air tube. The warm recirculation air surrounds the portion of the fresh air tube to heat it preventing ice from forming. The warm recirculation air entering the fresh air tube through the lobes homogeneously mixes with the conditioned air from the pack to provide a uniform mixture of air within the fresh air tube, which further ensures the prevention of ice build up.

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